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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,246	08/28/2003	Frank Athari	IR-2311 (2-3643)	7190

2352 7590 12/21/2007

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EXAMINER
RUTLAND WALLIS, MICHAEL

ART UNIT	PAPER NUMBER
2836	

MAIL DATE	DELIVERY MODE
12/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/650,246	ATHARI, FRANK	
	Examiner	Art Unit	
	Michael Rutland-Wallis	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

In view of the Appeal Brief filed on 10/31/2007, PROSECUTION IS HEREBY REOPENED. A new grounds of rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing this action.

Applicant's arguments with respect to claims 2-13 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being anticipated by Pelly (U.S. Pat. No. 6,636,107) in view of Kolar (U.S. Pat. No. 6,700,806)

With respect to claims 5-6, 8 and 9 Pelly teaches a circuit arrangement comprising a switching stage (i.e. switching circuitry contained within item 40 in Fig. 3) providing an output voltage and an active EMI filter (circuitry connected between terminals A,D and B,F in Fig. 3) having first and second input terminals (terminals A and B) and first and second output terminals (terminals B and F) and a ground return line (item 43) connected to a ground return line terminal (item 43a), the input terminals of the active EMI filter being connected to receive the output voltage of the power transistor switching stage (40) and the output terminals of the active EMI filter providing a filtered output voltage (via outputs B and F), wherein the power transistor switching stage is a switch mode power supply (i.e. AC input is rectified to DC) and the active EMI filter cancels common mode current (filtering of common mode current is described throughout see for example col. 2 line 55-60 or col. 6 lines 60-65) that flows between the input terminals (terminals A and B) and the output terminals (terminals B and F), substantially eliminating any current due to the common mode current in the ground return line (43) connected to the ground return line terminal (43a). Pelly does not illustrate at the use of a transistor based switching stage arranged at the input. Kolar

teaches (col. 2 lines 30-50) power transistors may be arranged as means to control the voltage conversion. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pelly to use power transistors in order to reduce the output voltage.

With respect to claim 10 Pelly teaches the active EMI filter comprises a current transformer (see windings 44-46) having first and second primary windings and first and second secondary windings, the first primary winding being connected between the first input terminal (terminals A and B) and the first output terminal (terminals B and F) and the second primary winding being connected between the second input terminal and the second output terminal.

With respect to claim 11 Pelly teaches a load (motor) connected to the first and second output terminals (terminals B and F) and the ground, wherein when a common mode noise current flows between the load and the ground, a common mode current flowing between the input and output terminals will flow in the primaries and a differential mode current (see Fig. 23) is canceled, the common mode current being reflected additively in the secondary winding and a normal mode current being canceled by polarization of the primaries.

With respect to claims 12 and 4 Pelly teaches the active EMI filter comprises two complementary PNP and NPN transistors (Q1 and Q2), only one of the transistors being conductive depending upon a direction of a current in the secondary winding; and an isolating capacitor (item 47).

With respect to claim 13 Pelly teaches one of the two transistors is turned ON to allow a current generated in one of the secondary winding (44) to flow through the isolating capacitor (47) to cancel a ground noise current flowing in the ground line (43), thereby canceling the ground noise current flowing back to the input, the transistors being turned ON depending on a flow of the common mode current.

With respect to claim 3 Pelly teaches the active EMI filter comprises an amplifier (item 70) stage having two transistors (Q1 and Q2) each controlled by a current sensor (windings of current sensing transformer), the current sensor sensing the presence of a common mode current to a load (motor) connected to the active EMI filter, each of said two transistors (Q1 and Q2) having a first terminal coupled at a common connection (E) to an isolating capacitor (47) coupled to a ground line (43), the isolating capacitor (47) passing a current to cancel the common mode current in said ground line each of said two transistors further having a second (see connection from point E leading to terminal at item 44) terminal coupled to a control terminal (see connected at winding output) via a secondary winding (44).

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelly (U.S. Pat. No. 6,690,230) in view of Sato (U.S. Pat. No. 5,731,689)

With respect to claims 7-8 Pelly teaches a circuit arrangement comprising a power stage providing an AC output voltage (Fig. 2 AC input) and an active EMI filter (item 11) having first ($L1_{IN}$) and second input ($L2_{IN}$) terminals and first ($L1_{OUT}$) and second ($L2_{OUT}$) output terminals and a ground return line (G) connected to a ground return line terminal (GND), the input terminals of the active EMI filter being connected to

receive the output voltage of the power transistor switching stage and the output terminals of the active EMI filter providing a filtered output voltage, wherein the power stage is a AC power supply (AC line) and the active EMI filter cancels common mode current (paragraph 0022) that flows between the input terminals and the output terminals, substantially eliminating (paragraph 0022-0023) any current due to the common mode current in the ground return line connected to the ground return line terminal. Pelly does not teach the use of a power transistor switching stage to output the AC output voltage. Sato teaches a control system wherein a power transistor switching stage is provided to provide an AC power output from a DC power source. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pelly to use a power transistor switching stage which is a switch mode power supply in order to provide a filter voltage from a battery supply.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pelly (U.S. Pat. No. 6, 690,230) in view of Sato (U.S. Pat. No. 5,731,689) in further view of Suzuki et al. (U.S. Pat. No. 6,067,243)

With respect to claim 2 Pelly as modified above teaches the power transistor switching stage comprises an output stage comprising a capacitor with the output voltage provided across the capacitor. Pelly does not teach the use of an inductor in the output stage. Suzuki teaches (Fig. 1 item 1) the use of an input filter connected at the output of the power transistor switching stage. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pelly to include the use of an inductor in order to filter output voltage.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pelly (U.S. Pat. No. 6,636,107) in view of Kolar (U.S. Pat. No. 6,700,806) in further view of Ohkawa et al. (U.S. Pat. No. 5,668,464)

With respect to claim 2 Pelly as modified above teaches a power transistor switching stage comprises an output stage however does teach the use of an inductor and a capacitor connected thereto. Ohkawa teaches the use of an inductor (18) and capacitor (36) connected at the power output stage. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pelly to include the use of an inductor and capacitor connected at the power output stage in order to provide a smoothed power signal to the filter.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRW

12/19/09

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